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Roesler

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[54] **COMBINED PRODUCT DISPLAY AND STORAGE UNIT**

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[51] **Int. Cl.²** **A47B 67/02;** A47B 97/00

[58] **Field of Search** 211/36, 55, 148, 150, 211/153, 177; 312/117, 118, 183, 234, 234.5, 278, 250, 283

[56] **References Cited**

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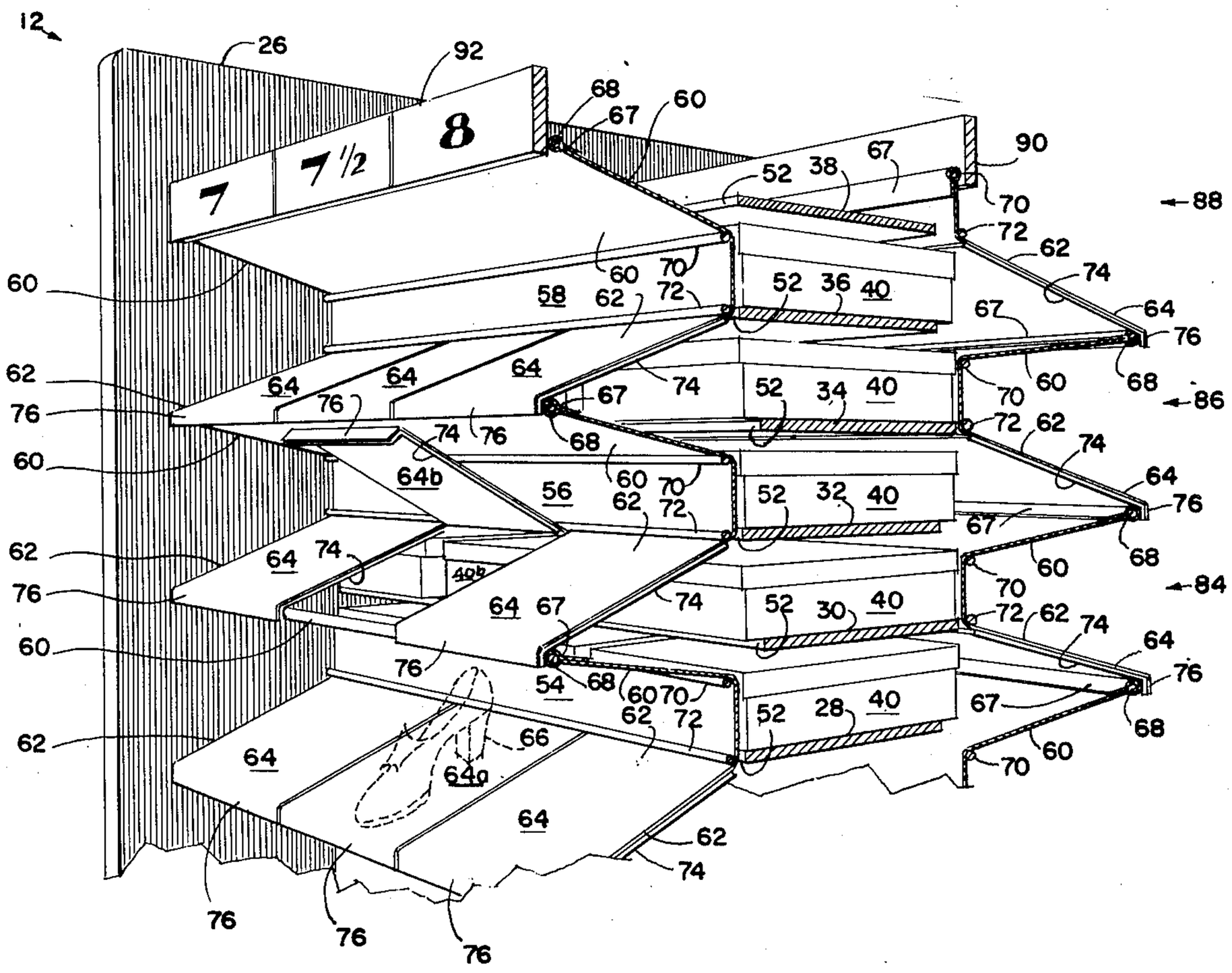
Primary Examiner—Casmir A. Nunberg

[57] **ABSTRACT**

Free standing, combined product display and storage device particularly suitable for store merchandising of shoes and characterised by including the combination of two end panels having between them a plurality of storage shelves positioned one above the other with storage spaces between them, the end panels extend a distance beyond the front edges of the shelves and carry between them a series of horizontally disposed trough-like formations positioned side-by-side with one above the other and hiding the storage shelves from customer view, each trough-like formation having an upper and a lower outwardly extending sides with each lower side being comprised of a plurality of contiguous product display platforms in a row and resting on the outer edge of the upper side of the next lower trough-like formation, each product display platform being fulcrumed to pivot upwardly to provide access to the storage space on an associated one of the storage shelves. Each of the trough-like formations is comprised of a thin flexible material carried by three support rods held at their respective ends in holes in the end panels. One of the support rods provides the fulcrum about which the row of display platforms pivot. The display platforms have stiffener members fixed to them to provide rigidity for carrying the displayed product. An alternate embodiment includes the same kind of series of trough-like formations at the back side of the storage shelves to thereby increase the number of product display platforms, thereby increasing the merchandising efficiency of the unit. Also the end panels can be used as divider panels for a series of similar end-to-end combined product display and storage units.

9 Claims, 4 Drawing Figures



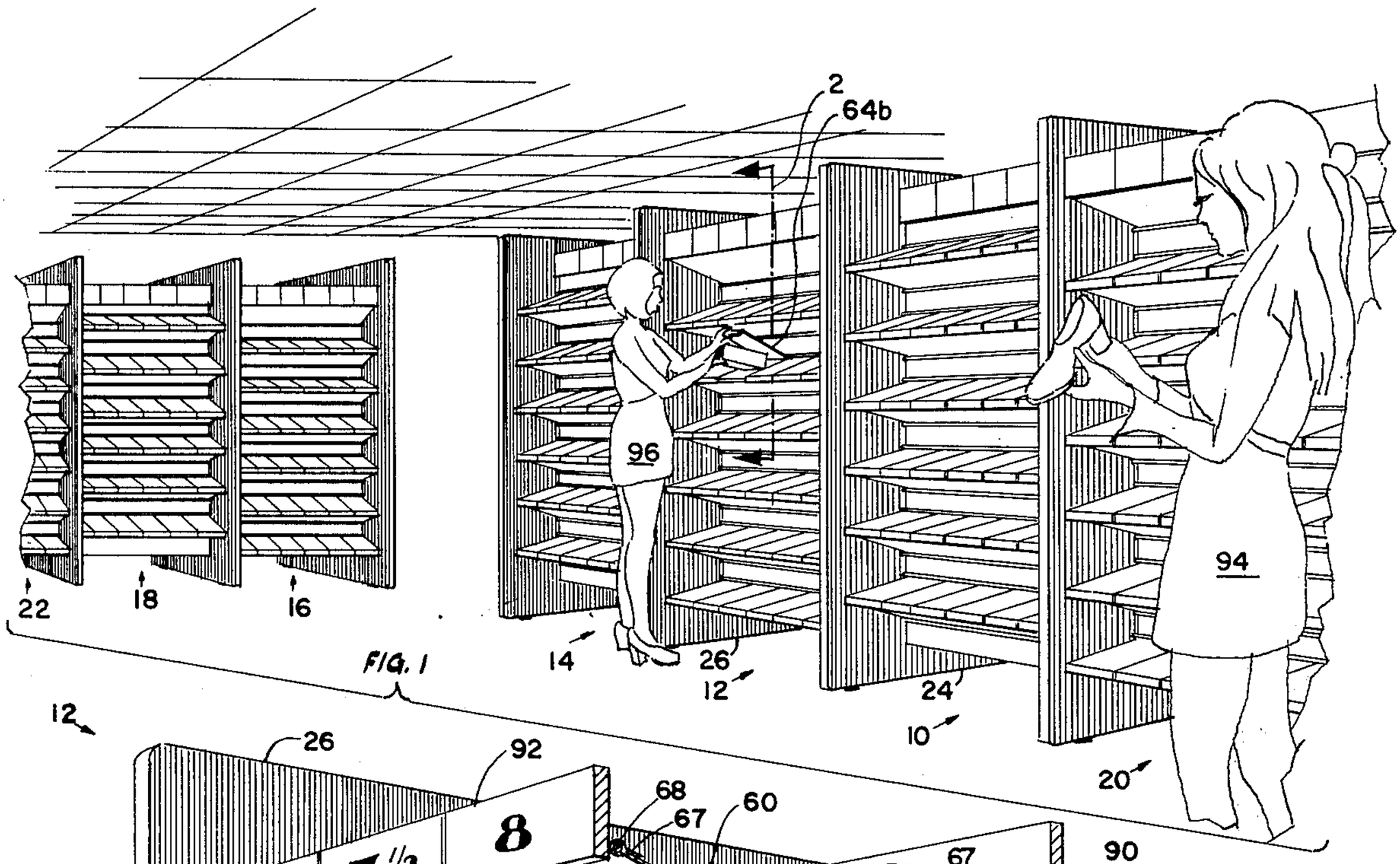


FIG. 1

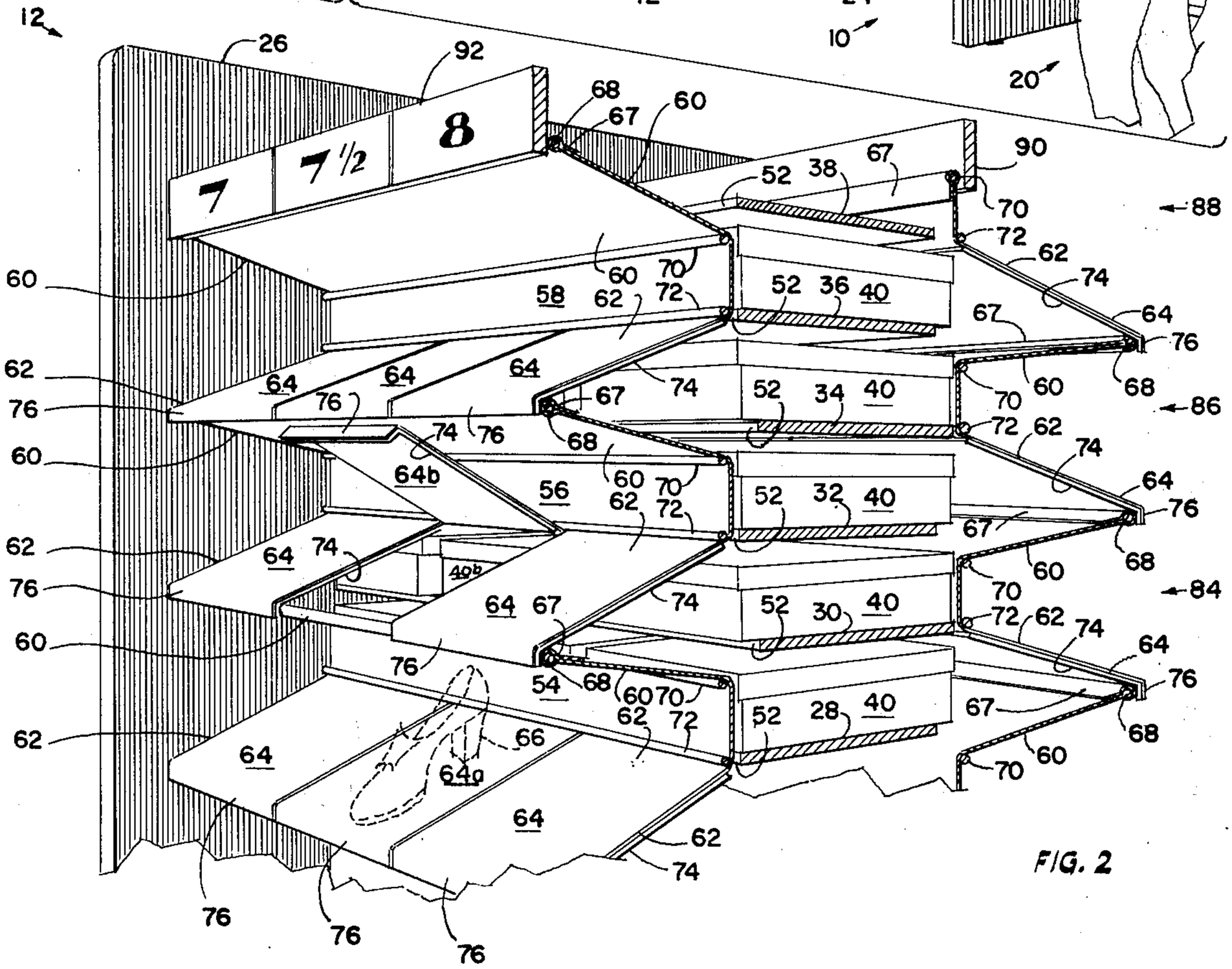


FIG. 2

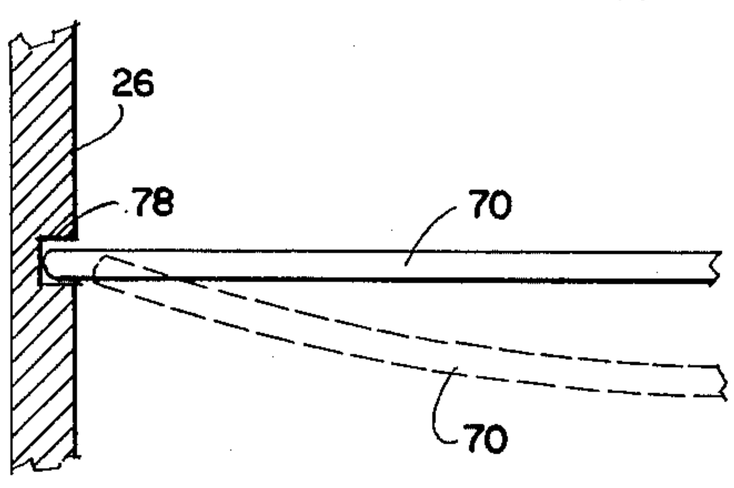


FIG. 3

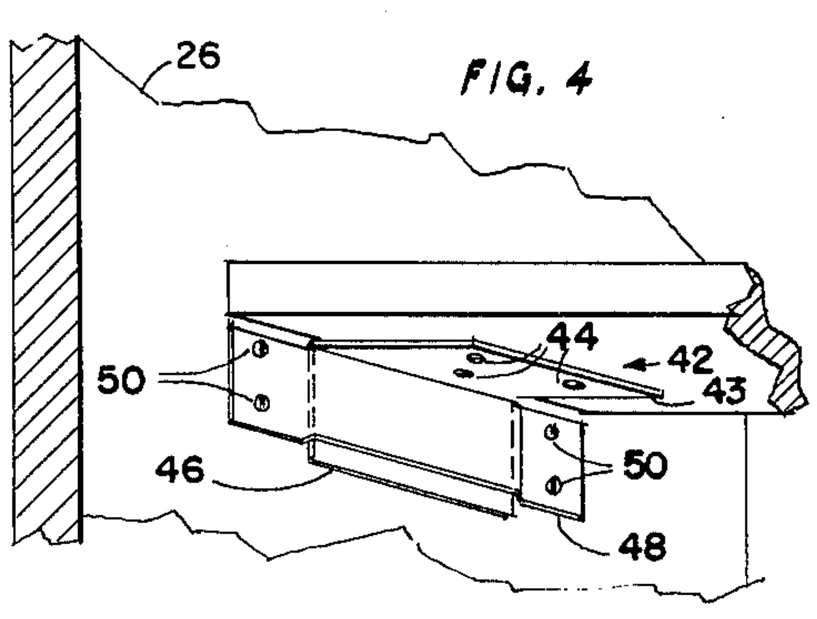


FIG. 4

COMBINED PRODUCT DISPLAY AND STORAGE UNIT

BACKGROUND OF THE INVENTION

This invention relates to combined product display and storage equipment and more particularly to a combined product display and storage unit particularly suitable for merchandising of shoes and the like and which makes possible increased efficiency in utilization of floor space and sales personnel for product merchandising and is comprised of two end panels having between them a plurality of shelves positioned one above the other with storage spaces between them the end panels extending a distance beyond the front edges of the shelves, a series of horizontally disposed trough-like formations positioned side-by-side with one above the other at the front edges of the shelves and between the panel extensions to hide the shelves from customer view, each trough-like formation having an upper and a lower outwardly extending sides, the lower side of each trough-like formation being comprised of a plurality of contiguous product display platforms in a row at the upper side of the next lower trough-like formation, each product display platform being fulcrumed to pivot upwardly to provide access to the storage space on an associated one of the shelves.

The practice in merchandising products such as shoes is generally such that it is difficult for a customer or prospective customer to examine a shoe offered for sale without the attendance of a salesperson. This is because shoes are ordinarily packaged in boxes and the boxes arranged upon shelves, some of which are along the walls of the merchandising sales room and a large portion of which are warehoused in backrooms accessible to only the sales personnel. While the customer or prospective customer may often observe some relatively few shoes which are set out to show a few samples carried in stock, it is an infrequent coincidence if such displayed samples are in the proper size and style desired by the customer. Seeing the shoe in the customer's size and style is particularly desirable for women's shoes because of the many styles and the fact that styles may vary in attractiveness depending upon the size of the particular shoe in such style. For example, a shoe which may be attractive to a customer in a small size **5** may be quite unattractive in a size **10.** Hence a prospective customer being aware of this possibility, necessarily desires in a shopping tour to see the various styles of shoes in her own particular size before making a purchase determination. However, in view of the high cost of maintaining sufficient sales personnel to service prospective customers, many sales are lost for either lack of time or impatience of a prospective customer to wait for service of a sales person.

Also, much of the merchandising value of store space is lost in that, as pointed out above, most of the shoes are hidden from view in boxes carried on storage shelves in the sales room as well as being warehoused in the back rooms of the store accessible only to employees. Some efforts have been made toward increasing merchandising display and more efficient storage, but such equipment is generally too expensive in construction, lacks sufficient versatility or creates other undesirable problems. For example U.S. Pat. No. 1,603,590 proposes a structure for inserting in conventional wall shelves a display panel for some of the stored shoes. The device carries a hinged board at the front of the shelf extending the width of a shelf section with mechanism occupying some of the storage space and requires lifting of the entire hinged board for access to the storage space behind the board, even though the board is long enough to be carrying a long line of shoes on display.

In a more recent U.S. Pat. No. 3,552,576, a greater display capacity is achieved with a boxlike telescoping structure wherein shoes are displayed on two opposed walls between which is a telescoping boxlike storage structure which may be laterally moved with respect to the display walls for access to the mate of a displayed shoe. While this structure has greater display appeal over that of the shelf insert device mentioned above, it is nevertheless cumbersome in its operation in that it is relatively complex in construction and requires lateral clearance space for telescoping movement of the boxlike storage compartment and thereby loses valuable merchandising space within a store.

Accordingly it is an object of the present invention to provide a combined product display and storage device which permits the conversion of warehousing and other storage space into highly productive merchandising space.

Another object is the provision of a combined product display and storage device which is particularly applicable for merchandising products which are sold in a variety of sizes and styles such as shoes, overshoes, and the like.

And a further object is the provision of a combined product display and storage device with permits efficient display of one of a pair of all sizes of shoes in all styles carried by a store for customer view without the need for prior assistance of sales personnel.

And a still further object is the provision of a combined product display and storage device which retains hidden the mate of each displayed shoe in readily accessible position for sales personnel without the need for leaving the site of the displayed shoe and which provides a deterrent to stealing by others.

And another object is the provision of a combined product display and storage device which is applicable to display of products in front of wall shelves as well as display on both sides of the shelves.

Further objects include the provision of of a combined product display and storage device which lends itself to free standing construction moveable to any desired floor position, may be manually assembled and dissassembled without tools of any kind, and lends itself to rapid and relatively inexpensive component changes as well as positioning in adjoining consecutive units to form rows of any desired length.

SUMMARY OF THE INVENTION

In a preferred embodiment of the invention, a combined merchandising product display and storage device includes the combination of two end panels having between them a plurality of spaced apart storage shelves positioned one above the other with the two end panels extending a distance beyond the front edges of the shelves and carrying a series of horizontally disposed trough-like formations positioned side-by-side with one above the other in front of the shelves in manner to hide from view the storage shelves and any stored products thereon, each of the trough-like formations having an upper and lower sides extending outwardly from a base in front of the storage shelves, the lower side of each of the trough-like formations being

composed of a plurality of contiguous product display platforms in a single row located at the upper side of the next lower trough-like formation with each merchandising product display platform being fulcrumed to pivot at the base upwardly to provide access to the storage space on an associated one of the storage shelves.

By making the trough-like formations of a flexible material such as cloth, leather or thin plastic material carried on rods having rod ends fixed to the panels, and providing stiffeners at each of the product display platforms, a relatively inexpensive shielding structure for hiding the shelves and storage area and an attractive arrangement for merchandising display of products is thereby achieved as well as a structure which lends itself to relatively easy and inexpensive replacement for maintaining a fresh appearance as a merchandising asset is thereby achieved.

By providing three rods for each trough-like formation in which one end of the flexible material is fixed to one of the rods positioned to form the outer edge of the upper side of the trough-like formation as well as support for the row of contiguous product display platforms which form the lower side of the next higher trough-like formation, the second rod with the flexible material providing the inner edge of the upper side of the trough-like formation, and the third of the rods providing, with the flexible material, the inner edge of the lower side as well as the fulcrum for pivoting of each of the plurality of the contiguous product display platforms in the row forming the lower side of the trough-like formation, a structurally economical and easily operable merchandising product display and storage space hiding arrangement is thereby achieved.

By making the rods of a length such that the rod ends are held in shallow holes in the end panels and are of a material such as wood, metal or resilient plastic of a sufficient flexibility permitting them to be removed from the associated shallow holes by flexing the respective rod to shorten its effective length, rapid manual assembly and dissassembly of the trough-like formations without special tools of any kind is thereby achieved.

By fixing the platform stiffener to the flexible material by cementing or stapling and including a downwardly projecting lip overlapping the outer edge of the upper side of the next lower trough-like formation, each platform thereby achieves a positive stabilizing support from the rods carrying the trough-like formations.

By rigidly fixing one leg of an L shaped member to each end of each of the shelves, with the other leg depending downwardly into a slot formed by a receiving bracket rigidly fixed to the associated end panel to thereby rigidly fix the ends of the shelves to the end panels with capacity for rapid manual assembly and dissassembly with respect to the end panels, a combined merchandising product display and storage device may be readily dissassembled for compact storage and transportation and conversely readily assembled as a free standing structure moveable to any desired location in a store for merchandising product display and product storage.

By extending the end panels a distance beyond the back edges of the shelves and providing another series of the horizontally disposed trough-like formations positioned side-by-side one above the other at the back edges of the shelves in similar manner to the trough-like formations in front of the front edges of the shelves, additional efficient merchandising product display capacity from the same device is thereby achieved.

By proportioning the trough-like formations in manner such that the rows of contiguous product display platforms at the front edges of the shelves provide access to the storage areas on alternate ones of the shelves and the rows of contiguous product display platforms at the back edges of the shelves provide access to the storage areas on the shelves located between the above mentioned alternate shelves, makes possible the display of different products on the respective sides of the shelves without possible confusion between the products displayed and those in storage on respective shelves accessible from the associated display platforms.

DESCRIPTION OF THE DRAWINGS

The features of the invention which are believed to be novel are set forth with particularity in the appended claims. The invention and the features, objects and advantages thereof will be better understood from the following description in conjunction with the accompanying drawings in which like reference numbers identify like components and in which:

FIG. **1** is a perspective view of several combined merchandising product display and storage units in an exemplary arrangement in a store for merchandising shoes to show both the construction of preferred embodiments of the invention as well as suitable arrangement of the invention in store layout;

FIG. **2** is a perspective view to enlarged scale of a cutaway section of one of the merchandising product display and storage units shown in FIG. **1** and taken on line **2** of FIG. **1** in the direction of the arrows to more clearly show construction;

FIG. **3** is a cross sectional view to further enlarged scale of a segment of the end panel at a representative one of the support rods of FIGS. **1** and **2** for showing the end of the support rod being carried in a shallow blind hole in the end panel, and in broken lines the support rod flexed for removal of the support rod from the hole;

FIG. **4** is a perspective view of a segment of a representative one of the end panels shown in FIGS. **1** and **2** together with an end segment of a representative one of the storage shelves to show structure for fastening the storage shelves to the end panels for rapid manual assembly and dissassembly.

DESCRIPTION OF THE ILLUSTRATIVE EMBODIMENT

Referring to FIG. **1** in more detail, an exemplary shoe store arrangement carrying five complete combined merchandising product display and storage units in accordance with the present invention are designated by the numerals **10, 12, 14, 16** and **18** respectively, and segmentary portions of two others are designated by the numerals **20** and **22.** As visible from an inspection of FIG. **1,** the respective combined merchandising product display and storage units are similar and therefor the following description will be confined primarily to the combined merchandising product display and storage unit **12** with the understanding that it applies to the other units also except where a few minor differences that do exist in structural arrangement among the respective units are specifically mentioned and described.

The combined merchandising product display and storage unit **12** has two end panels **24** and **26** which have between them thirteen shelves of which twelve are storage shelves such as **28, 30, 32** and **36,** and one is a cover shelf (FIG. **2**) positioned one above the other storage spaces between each of the shelves for carrying storage boxes **40.** Alternate storage shelves such as **30** and **34** are for access from the left hand side of the structure shown in FIG. **2,** and alternate storage shelves such as **28, 32** and **36** are for access from the right hand side of the FIG. **2** illustration for reasons to be hereinafter further explained.

Each of the shelves has fixed to the underside respective ends thereof an L shaped fastening member such as shown in FIG. **4** with respect to one end of the shelf **36** where one leg **43** of the L shaped bracket **42** is fixed to the underside end of the shelf **36** by screws **44** and the other leg **46** is depending downwardly and held against the end panel **26** in a slot formed by a bracket **48** fixed to the inside surface of the end panel **26** by screws **50.** Thus all of the shelves have a fastening arrangement at each end similar to the FIG. **4** illustration and may thereby be manually assembled and dissassembled with respect to the respective end panel, such as end panel **26,** by lifting the respective shelf, such as shelf **36,** so that the downwardly depending leg **46** of the L shaped bracket **42** is clear of the slot formed by the bracket **48** at the end panel **26.**

The end panels **24** and **26** extend beyond the front edges **52** of the shelves, such as **28** through **38,** and carry between them a series of horizontally disposed trough-like formations, such as the trough-like formations **54, 56** and **58,** positioned side-by-side with one above the other at the front edges **52** of the shelves. Each of the trough-like formations, such as **54, 56** and **58,** have outwardly extending upper and lower sides **60** and **62** respectively. The lower side **62** of each of the trough-like formations, such as **54, 56** and **58,** is comprised of a plurality of contiguous product display platforms **64** with each lower side **62** forming a row of such plurality of contiguous product display platforms **64** positioned at the upper side **60** of the next lower trough-like formation. Each product display platform **64** is proportioned for displaying a product similar to that carried in the storage boxes **40,** which in this instance are ladies shoes, one of which is shown by broken lines **66** on the display platform **64***a*.

The trough-like formations, such as **54, 56** and **58** are preferably made of a flexible material such as cloth, leather, or flexible plastic membrane such as vinyl, one edge of which is fixed by a casing **67** to an upper support rod **68** to form the upper edge of the upper side **60** of each of the trough-like formations and is carried at the base of each trough-like formation by an upper and lower base rods **70** and **72** respectively. A stiffener plate **74** of such material as plywood, fiberboard, or stiff plastic is fixed by cementing, stapling or other suitable means to the underside of the flexible material forming the display platforms **64,** each of which includes a downwardly projecting overhang or lip **76** overlapping the upper support rod **68** which forms the upper edge of the upper side **60** of the next lower trough-like formation. The lower base rod **72** in each of the trough-like formations froms a fulcrum about which the respective merchandising display platform **64** pivots so that the associated display platforms may be pivoted upwardly as shown by display platform **64***b* (FIGS. **1** and **2**) to provide access to the storage space on the associated storage shelf **30** which for the display platform **64***b* provides access to the storage box **40***b*. In the present instance box **40***b* will carry the mate to the shoe displayed on the platform **64***b* in manner of the shoe **66** on display platform **64***a*.

The front edges **52** of alternate shelves such as **30** and **34** are not as far forward as the front edges **52** of alternate shelves **28, 32** and **36.** The front edges **52** of the alternate shelves **30** and **34** leave a finger gripping clearance for the box **40***b* and other boxes **40** on the alternate storage shelves **30** and **34.** The purpose for this is to make it easy to manually grasp and withdraw the boxes, such as box **40***b*, when the associated display platform, such as **64***b*, is pivoted upwardly to provide access to the box **40***b*.

The other alternate storage shelves, such as **28, 32** and **36** are accessible through display platforms **64** of trough-like formations, such as **84, 86** and **88** at the back edges of the shelves and between extensions of the end panels **24** and **26** beyond the back edges of the shelves. The through-like formations, such **84, 86** and **88,** at the back edges of the shelves are the same in construction as the trough-like formations **54, 56** and **58** except in that they are vertically displaced by a distance equal to the spacing between the respective shelves such as shelves **32** and **34** to provide access to the alternate storage shelves **28, 32** and **36** which are not accessible through the trough-like formations **54, 56** and **58.** Because of such displacement, the top-most formation **88** has no upper side such as upper side **60** and in place thereof is a trim board **90** at the upper base support rod **70** to which the flexible material of the formation **88** is fixed by a casing **67.**

The trim board **90** is similar to and at the same height as a trim board **92** at the top edge **68** of the trough-like formation **58** to provide a balanced and finished appearance to the overall structure. Both trim boards **90** and **92** are fastened at their ends to the respective end panels **24** and **26** by a basket arrangement similar to that shown in FIG. **4** for ease in manual assembly and dissassembly in manner similar to that described with respect to FIG. **4.** Each of the trim boards **90** and **92** may also be sectioned on their faces to carry indicia to identify displayed products, in this instance identifying sizes and styles to be found on the product display platforms **64** directly beneath the associated indicia.

Each of the support rods **68, 70** and **72** in the respective trough-like formations are similar and parallel to each other and their respective ends are carried in shallow blind holes such as the hole **78** in panel **26** carrying the end of the support rod **70** shown in FIG. **3.** The support rods **68, 70** and **72** are of a material such as aluminum, steel or wood which has sufficient resilience for being flexed as shown by the broken lines in FIG. **3** to thereby reduce the effective length by an amount such that the support rod may be removed from the hole **78.** Thus the support rods **68, 70** and **72** may be manually assembled to and dissassembled from the end panels **24** and **26** without special tools and provide an inexpensive arrangement for replacing the trough-like formations which become shop-worn or to change the color scheme and so maintaining a continuously fresh and pleasing merchandising product display arrangement.

The invention lends itself to further economy by using both faces of the panels, such as **24** and **26,** for supporting adjacent merchandising product display and storage units such as **10** and **14** respectively in FIG. **1.**

In such event, the end panels **24** and **26** become divider panels for successive bays of product display and storage units, a structure which makes maximum use of floor space for merchandising products. To enhance the appearance of the successive bays, the trough-like formations in the successive bays are alternately displaced vertically with respect to each other. For example in bays **20, 12, 16** and **22,** the trough-like formations are at levels like those of **54, 56** and **58.** Whereas in alternate bays **10, 14** and **18,** the trough-like formations are at levels like those of **84, 86** and **88.** The divider panels in addition to providing structural support, also provide vertical visual relief to the horizontally aligned display platforms **64,** as well as a pleasing decorative contribution to the overall appearance which is further aided by suitable coloration as in the drawings which are lined to indicate the color code of red.

In operation in a shoe store, one of each of the various styles in each size carried by the store are set out on the individual display platforms **64** in manner similar to that of shoe **66** on display platform **64***a*. The mate of each of the displayed shoes is stored in the shoe box **40** on a storage shelf directly behind the associated display platform, such as box **40***b* for the display platform **64***b*. Prospective customers may closely examine the individual shoes on display in manner similar to that of the prospective customer **94** in FIG. **1,** but are deterred from stealing the viewed shoe because the mate is in storage. When the customer decides to purchase a selected shoe, an employee is contacted who supplies the other shoe from the conveniently located storage shelf behind the display platform in manner similar to that of the employee **96,** thereby minimizing employee time per customer sale.

This invention is not limited to the particular details of construction and operation described as equivalents will suggest themselves to those skilled in the art.

What is claimed is:

1. In a combined merchandising product display and storage device, the combination of two end panels having between them a plurality of shelves positioned one above the other with storage spaces therebetween and having front edges, the end panels extending a distance beyond the front edges of the shelves, a series of horizontally disposed trough-like formations positioned side-by-side with one above the other at said front edges of the shelves and between said panel extensions in manner to shield associated storage spaces from view, each trough-like formation having an upper and a lower outwardly extending sides, the lower side of each of said trough-like formations being comprised of a plurality of contiguous product display platforms in a row at the upper side of the next trough-like formation, each product display platform being fulcrumed to pivot upwardly to provide access to the storage space on an associated one of said shelves.

2. The combination as in claim **1** wherein said trough-like formations are comprised of a flexible material carried on rods having ends fixed to said panels and each of said product display platforms has a stiffener providing support to said displayed product.

3. In a combined merchandising product display and storage device, the combination of two end panels having between them a plurality of shelves positioned one above the other with storage spaces therebetween and having front edges, the end panels extending a distance beyond the front edges of the shelves, a series of horizontally disposed trough-like formations positioned side-by-side with one above the other at said front edges of the shelves and between said panel extensions, each trough-like formation having an upper and a lower outwardly extending sides, the lower side of each of said trough-like formations being comprised of a plurality of contiguous product display platforms in a row at the upper side of the next lower trough-like formation, each product display platform being fulcrumed to pivot upwardly to provide access to the storage space on an associated one of said shelves, the trough-like formations being comprised of flexible material carried on rods having ends fixed to said panels and each of said product display platforms having a stiffener providing support to said display product, the upper and lower sides of said trough-like formations each having outer and inner edges and there being three of said support rods in each of said trough-like formations for carrying said flexible material, one of said rods having fixed thereto said flexible material to form the outer edge of said upper side of the trough-like formation and providing support for the row of contiguous product display platforms which form the lower side of the next higher trough-like formation, a second one of said rods providing with said flexible material the inner edge of said upper side, and the third of said rods providing with said flexible material the inner edge of said lower side and the fulcrum for pivoting of each of the plurality of contiguous product display platforms of said lower side.

4. The combination as in claim **3** wherein the stiffener of each of said plurality of product display platforms is fixed to the flexible material and includes a downwardly projecting lip overlapping the outer edge of the upper side of the next lower trough-like formation.

5. The combination as in claim **3** wherein the ends of each of said rods is held in an associated shallow hole in said end panels and said rods have a flexibility such that they may each be removed from said associated shallow hole by flexing the respective rod to shorten its effective length.

6. The combination as in claim **5** wherein said shelves are ridigly fixed to said panels for thereby making said merchandising product display and storage device a free standing unitary structure which is moveable to any desired floor position in a store.

7. The combination as in claim **5** wherein each of said shelves has two ends with each shelf end having ridigly fixed thereto one leg of an L shaped member with the other leg depending downwardly into a slot formed by a receiving bracket rigidly fixed to the associated end panel to thereby rigidly fix the ends of said shelves to said end panels with capacity for rapid manual assembly and dissassembly with respect to said end panels whereby said merchandising product display and storage device may be readily dissassembled for compact storage and transportation and readily assembled as a free standing device for merchandising product display and storage.

8. The combination as in claim **6** wherein said plurality of shelves have back edges in opposed relation to said front edges, said end panels extend a distance beyond the back edges of said shelves, and another series of horizontally disposed trough-like formations positioned side-by-side one above the other at said back edges of said shelves, said last mentioned trough-like formations being similar to said first mentioned trough-like formations.

9. The combination as in claim 8 wherein the rows of contiguous product display platforms at the front edges of said shelves provide access to the storage areas on alternate ones of said shelves and the rows of contiguous product display platforms at the back edges of said shelves provide access to the storage areas on the shelves located between said alternate shelves.

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